

In the Drawings

Please accept the attached replacement drawing sheets for Figs. 1-5, 7a, 7b and 8. Figs. 1-5 have been amended to include a "Prior Art" and resized to ensure satisfaction of the drawing requirements. Figs. 7a, 7b and 8 have been amended to resize the text to ensure satisfaction of the drawing requirements.

REMARKS

The Office Action mailed October 12, 2005, has been reviewed and carefully considered.

Claims 9, 17, 25 and 26 have been amended. Claims 1-26 are pending in the application.

In paragraph 2 on page 2 of the Office Action, the drawings were objected to.

Applicants traverse the objection to the drawings, but in the interest of expediting prosecution have amended the drawings as suggested. Accordingly, Applicants respectfully request withdrawal of the objection to the drawings.

In paragraph 4 on page 2 of the Office Action, claims 9, 16-17 and 24-25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Shimizu et al. in view of Ishikawa.

Applicants respectfully traverse the rejection, but in the interest of expediting prosecution have amended the claims to overcome the rejections. Applicants respectfully submit that the cited references, alone or in combination, fail to disclose, teach or suggest Applicants' invention as recited in the amended claims.

Shimizu et al. show a head with a trapezoidal shaped sensor. The trapezoidal shaped sensor includes a first self-pinned layer, a second self-pinned layer, a free layer and a hard bias layer. However, The edges of each of the layers of the trapezoidal shaped sensor align. Thus, the trapezoidal shaped sensor of Shimizu cannot include a first self-pinned layer having a first and second end and wherein the first and second end of the first self-pinned layer includes a side surface, top surface and bottom surface, wherein the top surface of the first and second end of the first self-pinned layer extends under the hard bias layers at the first and second ends and contacts the hard bias layer along the top surface of the first and second ends of the first self-pinned layer. Rather, Shimizu et al. show the top surface of the first and second ends of the first self-pinned layer being aligned exactly with the interlayer such that the top surface of the first and second ends of the first self-pinned layer contacts the interlayer and not the hard bias layer.

Accordingly, Shimizu et al. fail to disclose, teach or suggest Applicants' invention as recited in independent claims 9, 17, 25 and 26.

Ishikawa fails to remedy the deficiencies of Shimizu et al. Ishikawa is merely cited as teaching the use of self-pinned layers. However, Ishikawa fails to suggest at least a first self-pinned layer having a first magnetic orientation, the first self-pinned layer having a first end, a second end and central portion, the first and second end of the first self-pinned layer having a side surface, top surface and bottom surface and a first and second hard bias layers formed over the top surface of the first and second ends of the first self-pinned layer respectively, the first and second hard bias layer abutting the free layer, the top surface of the first and second end of the first self-pinned layer extending under the hard bias layers at the first and second ends and contacting the hard bias layer along the top surface of the first and second ends of the first self-pinned layer.

Accordingly, Ishikawa and Shimizu et al., alone or in combination, fail to disclose, teach or suggest Applicants' invention as recited in independent claims 9, 17, 25 and 26.

Dependent claims 10-16 and 18-24 are also patentable over the cited reference, because they incorporate all of the limitations of the corresponding independent claim 9 and 17. Further dependent claims 10-16 and 18-24 recite additional novel elements and limitations. Applicants reserve the right to argue independently the patentability of these additional novel aspects. Therefore, Applicants respectfully submit that dependent claims 10-16 and 18-24 are patentable over the cited references, and request that the objections to the independent claims be withdrawn.

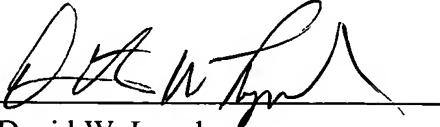
On the basis of the above amendments and remarks, it is respectfully submitted that the claims are in immediate condition for allowance. Accordingly, reconsideration of this application and its allowance are requested.

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If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Attorney for Applicant, David W. Lynch, at 423-757-0264.

Respectfully submitted,

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